



SDK API Reference Manual

for VP8

API Version 1.12



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Overview

The SDK (Software Development Kit) is a software development library that exposes the media acceleration capabilities of Intel platforms for decoding, encoding and video processing. The API library covers a wide range of Intel platforms.

This document describes the SDK extension to support VP8 video codec.

Document Conventions

The SDK API uses the Verdana typeface for normal prose. With the exception of section headings and the table of contents, all code-related items appear in the Courier New typeface. Examples relevant to this document are `mfxStatus` and `MFXInit`. Hyperlinks appear in underlined boldface, such as **mfxStatus**.

Acronyms and Abbreviations

SDK	Intel® Media Server Studio – SDK and Intel® Integrated Native Developer Environment Media SDK for Windows
API	Application Programming Interface

Architecture & Programming Guide

SDK extension for VP8 requires the application to use an additional include file `mfxvp8.h`, in addition to the regular SDK include files. No additional library is needed at the link time.

Include these files:

```
#include "mfxvideo.h"      /* SDK functions in C */
#include "mfxvideo++.h"    /* Optional for C++ development */
#include "mfxvp8.h"        /* VP8 development */
```

Link to this library:

```
libmfx.lib                /* The SDK dispatcher library */
```

The SDK extends the codec identifier `MFX_CODEC_VP8` for VP8 processing.

Decoding Procedure

The application should use the same decoding procedure that described in the *SDK API Reference Manual*. The only difference is in partitioning of input bitstream. Unlike other supported by SDK decoders, VP8 can accept only complete frame as input and application should provide it accompanied by `MFX_BITSTREAM_COMPLETE_FRAME` flag.

Encoding Procedure

The application should use the same encoding procedure that described in the *SDK API Reference Manual*.

Structure Reference

mfxExtVP8CodingOption

Definition

```
typedef struct {
    mfxExtBuffer    Header;

    mfxU16    Version;
    mfxU16    EnableMultipleSegments;
    mfxU16    LoopFilterType;
    mfxU16    LoopFilterLevel[4];
    mfxU16    SharpnessLevel;
    mfxU16    NumTokenPartitions;
    mfxI16    LoopFilterRefTypeDelta[4];
    mfxI16    LoopFilterMbModeDelta[4];
    mfxI16    SegmentQPDelta[4];
    mfxI16    CoeffTypeQPDelta[5];
    mfxU16    WriteIVFHeaders;
    mfxU32    NumFramesForIVFHeader;
    mfxU16    reserved[223];
} mfxExtVP8CodingOption;
```

Description

This **mfxExtVP8CodingOption** structure describes VP8 encoder configuration parameters.

Members

Header.BufferId	Must be set to MFx_EXTBUFF_VP8_CODING_OPTION .
Version	Determines the bitstream version. Corresponds to the same VP8 syntax element in <i>frame_tag</i> .
EnableMultipleSegments	Set this option to ON, to enable segmentation. This is tri-state option. See the CodingOptionValue enumerator for values of this option in the <i>SDK API Reference Manual</i> for details
LoopFilterType	Selecting the type of filter (normal or simple). Corresponds to VP8 syntax element <i>filter_type</i> .
LoopFilterLevel	Controls the filter strength. Corresponds to VP8 syntax



	<code>element loop_filter_level.</code>
<code>SharpnessLevel</code>	Controls the filter sensitivity. Corresponds to VP8 syntax <code>element sharpness_level.</code>
<code>NumTokenPartitions</code>	Specifies number of token partitions in the coded frame.
<code>LoopFilterRefTypeDelta</code>	Loop filter level delta for reference type (intra, last, golden, altref).
<code>LoopFilterMbModeDelta</code>	Loop filter level delta for MB modes.
<code>SegmentQPDelta</code>	QP delta for segment.
<code>CoeffTypeQPDelta</code>	QP delta for coefficient type (YDC, Y2AC, Y2DC, UVAC, UVDC).
<code>WriteIVFHeaders</code>	Set this option to ON, to enable insertion of IVF container headers into bitstream. This is tri-state option. See the CodingOptionValue enumerator for values of this option in the <i>SDK API Reference Manual</i> for details
<code>NumFramesForIVFHeader</code>	Specifies number of frames for IVF header when <code>WriteIVFHeaders</code> is ON.

Change History

This structure is available since SDK API 1.12.

Enumerator Reference

CodecProfile

Description

The **CodecProfile** enumerator is extended to support VP8 profiles. See the *SDK API Reference Manual* for additional profile definitions.

Name/Description

<code>MFx_PROFILE_VP8_0</code>	VP8 profiles
<code>MFx_PROFILE_VP8_1</code>	
<code>MFx_PROFILE_VP8_2</code>	
<code>MFx_PROFILE_VP8_3</code>	

Change History

This enumerator is available since SDK API 1.0. SDK API 1.12 added VP8 profiles.

ExtendedBufferID

Description

The **ExtendedBufferID** enumerator is extended to add VP8 support. See the *SDK API Reference Manual* for additional definitions.

Name/Description

<code>MFx_EXTBUFF_VP8_CODING_OPTION</code>	This extended buffer describes VP8 encoder configuration parameters. See the mfExtVP8CodingOption structure for details. The application can attach this buffer to the <code>mfVideoParam</code> structure for encoding initialization.
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Change History

This enumerator is available since SDK API 1.0.

SDK API 1.12 adds **MFx_EXTBUFF_VP8_CODING_OPTION**.